

## CENTRAL INTELLIGENCE AGENCY

## INFORMATION REPORT

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THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.  
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1. Lazo Factory No. 1 (Fabrika Nr. 3 imeni Lazo), commonly referred to as the Third Factory (Tretiya Fabrika), was located about eight kilometers northwest of Lazo (N 63-13, E 152-10), on the side of a hill. (See sketch of factory area and legend )
2. The Lazo cassiterite mine and the concentration plant were formerly two separate installations. In 1951, the two installations became a single combine under one chief (nachalnik kombinata).

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Power and Water Supply

3. Electric power was furnished the factory by the Elgen Ugol (N 62-54, E 151-46) power plant. This plant also supplied the power for the Pyatiletka Cassiterite Mine, the Kanon Cobalt Mine, and the Lazo Cassiterite Mine. Power failures were rather frequent, particularly during the winter snow storms; there might be two to five power failures during one 12-hour shift, but this was exceptional. Usually, these failures lasted one hour or an hour and a half; once, the failure lasted 24 hours. On the grounds of the factory, there was a steam plant which served to heat the plant.
4. Water was obtained from the river. In winter, the ice had to be broken to get any water and this was very dirty. During the coldest season, little water

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(Note: Washington Distribution Indicated By "X"; Field Distribution By "#".)

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could be obtained from the river, and the same water was used over and over again, sometimes for as long as three months. It became very black and dirty, and there was no real filtration installation. For the more delicate refining operations, the factory tried to maintain a small supply of clean water.

#### Output

5. The Third Factory did not go beyond the primary refining process. Theoretically, 1,000 kilograms of good cassiterite ore should yield ten kilograms of pure cassiterite. The Third Factory, however, was expected to obtain only 47 percent of the theoretical yield, or 4.7 kilograms from 1,000 kilograms of ore. On the average, the factory processed 150 metric tons of ore per 12-hour shift. Although 150 tons of ore contain, in principle, 1,500 kilograms of pure cassiterite, the factory was supposed to obtain only 48 percent, or 705 kilograms of pure cassiterite per shift.
6. In actuality, however, 150 tons of ore often yielded 2,100 kilograms of concentrate. [redacted] one hundred kilograms of concentrate usually contained 30 kilograms pure cassiterite, 40 kilograms sulphite (sulfit), 20 kilograms stone or rock (kamen), and 10 kilograms of sand and dirt. Thus, frequently the factory would obtain from the 2,100 kilograms of concentrate only 630 kilograms of cassiterite, which meant that the factory was 75 kilograms short of its norm. 25X1
7. Although the average yield was below 47 percent, occasionally the factory got as high as 50 percent or as low as 30 percent. The difference depended on the quality of the ore and the working of the various machinery. The smallest production per shift was 80 kilograms; the maximum was 1,000 kilograms.
8. The concentrate was subjected to chemical analysis in the laboratory. If it was found to be of very poor quality, it was returned to the mill for a second run. The concentrate was sent to the drying stand (sushilka) and then taken to the store room in pails. There were scales in the store room. Usually, a full pail weighed from 25 to 30 kilograms. The concentrate was then dumped into a steel drum (bochka), which held 500 to 600 kilograms, or immediately into 50-kilogram canvas bags. The drums were used for storage. Only the bags were sent out of the factory. When the bags were ready, a wooden tag was attached and properly marked. The normal inscription was "50 kilograms, 30%, Omskiy Zavod". The percentage varied but was never less than 30 percent. Every day, a truck or two came to load the bags. [redacted] 25X1  
[redacted] there were 40 or 50 to 25X1  
each load. [redacted] the trucks went to Seymchan; from there the bags 25X1  
were sent on by plane to Magadan, sent by ship to a port near Vladivostok, and from there by train to Omsk.

#### Labor and Wages

9. The prisoners worked at the factory in three shifts, 40 to 50 men per shift, a total of 120 to 150 workers. Each shift worked 12 hours and then was off for 24 hours. For example, the first shift would work from 0700 to 1900, the second from 1900 to 0700, and the third, the next day, from 0700 to 1900. There were 50 to 60 free workers in the factory, distributed rather evenly among the shifts.
10. Until May 1952, no wages were paid to political prisoners. Thereafter, they received from 100 to 300 rubles in cash per month, after all the deductions were made. [redacted] UNCODED  
[redacted] The 25X1  
pay scales for free and prison workers were as follows, in rubles per month:
  - a. Third category: 800 for classifiers (klassifikatorchik) and ore concentrate carriers (golovonos: sic).
  - b. Fourth Category: 900 for concentrator (kontsentrashchik). The concentrators worked at the sedimentation units and gathered the concentrate in pails.

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- c. Fifth category: 1,000 for substitute millman (podmenyy milman: sic) and regulator (regulirovshchik). Millmen worked on the ball mills.
- d. Sixth category: 1,200 for millman, regulator, and flotator (flotatorshchik).

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12. The Soviet free personnel worked on government contracts. Their wages varied from 4,000 to about 16,000 rubles (sic), which was the salary of the chief engineer. In the whole factory there were only 15 to 20 Communist Party members, who were in the upper ranks of the factory personnel; some of the shift leaders were Party members.

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Equipment Repair

14. The equipment normally functioned without any breakdowns, partly because there were many alternate mills and shaking tables. One day per month was set aside for repairs. Every year, for two or three weeks, there was a general overhaul (kapitalnyy remont) of all the equipment. No other work was done during these periods. The large ball mill was doubled in 1949. Concerted efforts were made to obtain more metal, but none to increase construction.

Security

15. The factory was surrounded by a single barbed wire fence, about two meters high. About three meters from the fence, in a number of places, there were wooden boards bearing the inscription "Forbidden Zone" (zapretnaya zona). There were about ten watchtowers around the factory, each with one armed guard. The prisoners were taken from the camp to the factory by four or five guards and one or two dogs. The prisoners had no documents of any kind, only a number that appeared on their caps and clothing.<sup>1</sup> The only restricted area was the depot of refined cassiterite (spets-sklad). Only the workers actually employed there had access to it.

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Annotations for Flow Chart of the Cassiterite Concentration Process at Lazo  
Factory No. 3 (See attachment)Inset A: Aerial view of buildings where concentration process took place

- A. Building with large water tank.
- B. Building housing the screens.
- C. Building housing the hydrolytic classifiers.
- D. Building housing the ball mills.
- E. Building housing the sedimentation units on the fifth and fourth floors.
- F. Building housing second-run graders, mills, and sedimentation units.
- G. Building housing flotation unit and other machinery.
- H. Building housing the seven pumps for sending the ore mixture back through the units (sic: Pump No. 5 is not shown in this section).

Main Drawing

Some numbers and letters appearing on the chart are not described below. The pipes through which the concentrate flows are not shown on the chart.

1. Screens (grokhota): The fine ore goes directly from the screens to the hydrolytic classifier (7-B); the coarser ore goes to the ball mills (No. 3). The three screens are close together.
2. Water tank (bochka or bak): Water is pumped here from the river.
3. Two ball mills: One is called the Flutarka, the other the Amerikanka. They work alternately. Each unit has 14 tons of steel balls. In one hour, each mill can process 15 to 20 tons of ore. The mills are driven by a 500-kilowatt motor.
4. Two small screens: The fine ore is pumped to a hydrolytic grader (7-A); the coarse ore is returned through the screw conveyer (shnek) (5) into the mill for a second grinding.
5. Screw conveyers.
6. Pump which sends fine ore to hydrolytic grader (7-A).
- 7-A, B, C. Hydrolytic classifiers (gidrolicheskiy klassifikator): They are used successively, according to fineness of ore. From the classifiers, the concentrate is sent through pipes to the sedimentation units with the corresponding numbers, i.e.: From 7-A to 8a1, 8a2, 8a3, and 8a4. These sedimentation units are actually one on top of the other, with three meters between each unit.
8. Sedimentation units: These units are not all alike. Some have four sedimentation tables, and some have three mixing machines and one table. No. 8a1 has three mixing machines and one table; No. 8b3 has four tables; and 8b4 (sic) has one table. Four grades of mixtures come out of these sedimentation units and are further concentrated as follows:
  - a. First-grade concentrate (gruppy kontsentratsiya or golovka): Goes directly to the flotation unit (No. 9). This concentrate contains much cassiterite and little sulphite.
  - b. Second-grade concentrate (kontsentratsiya): Goes first to grader K-3 (No. 10), then to the mill S-2 (No. 10a), from where it flows down to pump P-1 (No. 11), from which it is pumped back to sedimentation unit 8a2 to continue the concentration process (sic: see 11, 12, and 14).

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- c. Intermediate concentrate (promprodukt): Goes to grader K-1 (next to No. 17), from there to another mill (No. 18), then flows down to pump P-2 (No. 19), which sends it up to the hydrolytic grader 7-C, from where it continues its concentration process through the sedimentation units.
- d. Tailings (khvost): Go to the tailings station (shlamovaya) outside the main buildings.
- 9. Flotation unit: The first-grade concentrate is collected in pails at the sedimentation units and dumped into the flotation unit. Water, sulphuric acid, and turpentine are added, and a propeller churns the mixture. Froth (pena) containing sulphite rises to the surface, while the cassiterite concentrate stays at the bottom. The cassiterite is taken to the drier (sushilka) outside the main buildings. The froth is sent by pump P-5 to further concentration through a grader K-4 (20) and mill to sedimentation unit S (No. 14).
- 10. Grader K-3.
- 10a. Mill S-2: From this unit the concentrate flows to pump P-1 (No. 11).
- 11. Pump P-1: The pump sends the concentrate from Mill S-2 to the water filtration unit A-2 (No. 12).
- 12. Water filtration unit A-2 (akents: sic). This unit has a spiral conveyer which separates sand from water. The concentrate goes from there through a tank of water (No. 13) to a sedimentation table (No. 14).
- 13. Tank filled with water.
- 14. Sedimentation table S: Three grades of ore emerge from here. The first-grade ore is taken to the flotation unit (9); the second-grade goes to pump P-4 (No. 15), which sends it up to grader K-2 (No. 16), from where it passes to another sedimentation unit S (No. 17); the third-grade (intermediate) goes through pump P-6 to grader K-1 (next to No. 17) and from there through the mills (No. 18).
- 15. Pump P-4: Sends concentrate to grader K-2 (No. 16).
- 16. Grader K-2.
- 17. Sedimentation unit S: From this unit emerge two kinds of concentrate; the first-grade goes to flotation unit (No. 9); the other (intermediate) is sent back (probably via pump P-7) through the mills (No. 18).
- 18. Mills: Concentrate goes from here, through pump P-2 (No. 19), up to hydrolytic classifier 7-C.
- 19. Pump P-2.
- 20. Grader K-4: Receives the froth coming from the pump P-5, attached to the flotation unit (No. 9). The mixture is sent on to the sedimentation table S (No. 14).

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Legend to Sketch Map of Third Factory Area, Lazo (See page 9)

1. Seymchan River: Frozen from beginning of October to end of May; width: 80 meters: depth 1.5 to 2. meters.
2. Bridge over which prisoners came to factory: Bridge was wooden, had no concrete abutments, and was only wide enough for a single truck.
3. Guard post: One man.
4. Scales for weighing incoming trucks loaded with ore.
5. Large bunkers where trucks dumped ore.
- 5a. Office for checking in trucks as they dumped ore: [redacted] 25X1  
[redacted] the factory received 150 to 200 tons of ore 25X1  
every 12 hours. It received less when the ore was rich, more when the ore was poor. The chief engineer regulated the flow.
6. Two-car hoist (lebedka): Actioned by electric motor. Each car had a one-ton capacity. One went up as the other came down.
7. Bunker (rudnyy dvor): Cars dumped ore here.
- 7a. Chute.
8. Crusher (drobilka).
- 8a. Tall watertower.
9. Big bunker divided into four sections, used alternately.
10. Conveyer belt.
11. Main factory buildings (glavnyy korpus).
12. Office of chief engineer.
13. Drier unit (sushilka) with a small shaking table: The better concentrate was sent here.
14. Tailings station: Poor quality concentrate went here.
15. Disposal unit (khvostovaya ustanovka): It also had a small ball mill, table, and grader. The good concentrate was sent to the drier, the rest thrown away.
16. Re-processing unit (magnitka: sic): This was a smaller mill than in the main building; it had three shaking tables for concentrate that was less than 30 percent. It was similar to unit No. 15, but got a better grade of concentrate, not just material from the tailings station.
17. OTK: Technical Control Section.
18. Electric substation (podstantsiya) for the whole factory.
- 18a. Transformer: Near entrance.
19. Boiler shop: Provided steam heat for the factory.

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20. Electric shop for repairs (elektro-tsekh).
21. Mechanical workshop.
22. Smithy (kuznets).
23. Carpenter shop (stolyarnaya masterskaya).
24. Office for storeroom.
25. Storeroom (sklad): Oil, sulphuric acid (kuslata--SO<sub>4</sub>H<sub>2</sub> <sup>4</sup>/sic/) turpentine (sosnovoye maslo), tools, nails (gvozd), and paint were kept here.
26. Office of a small cassiterite mine.
27. Small cassiterite mine: Abandoned in 1951.
28. Water filtration unit: The dirty water, with sand and stones, passed through a screw conveyer. The stone was cropped and the water returned to the factory.

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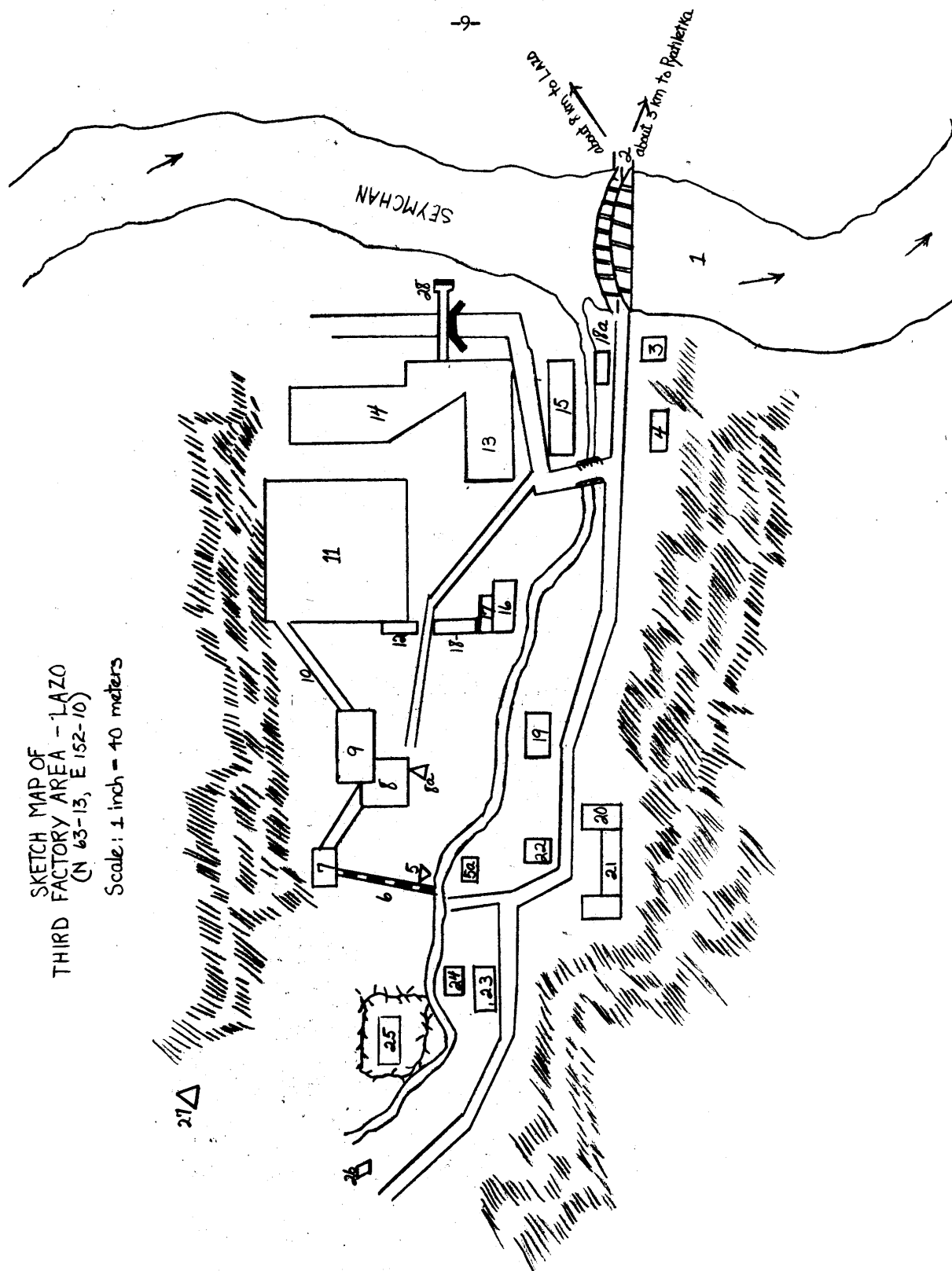
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SKETCH MAP OF  
THIRD FACTORY AREA - LAZO  
(N 63-13, E 152-10)

Scale: 1 inch = 40 meters

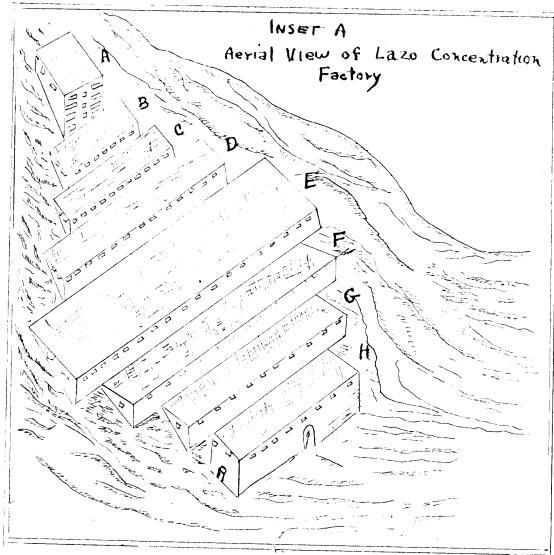
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Attachment

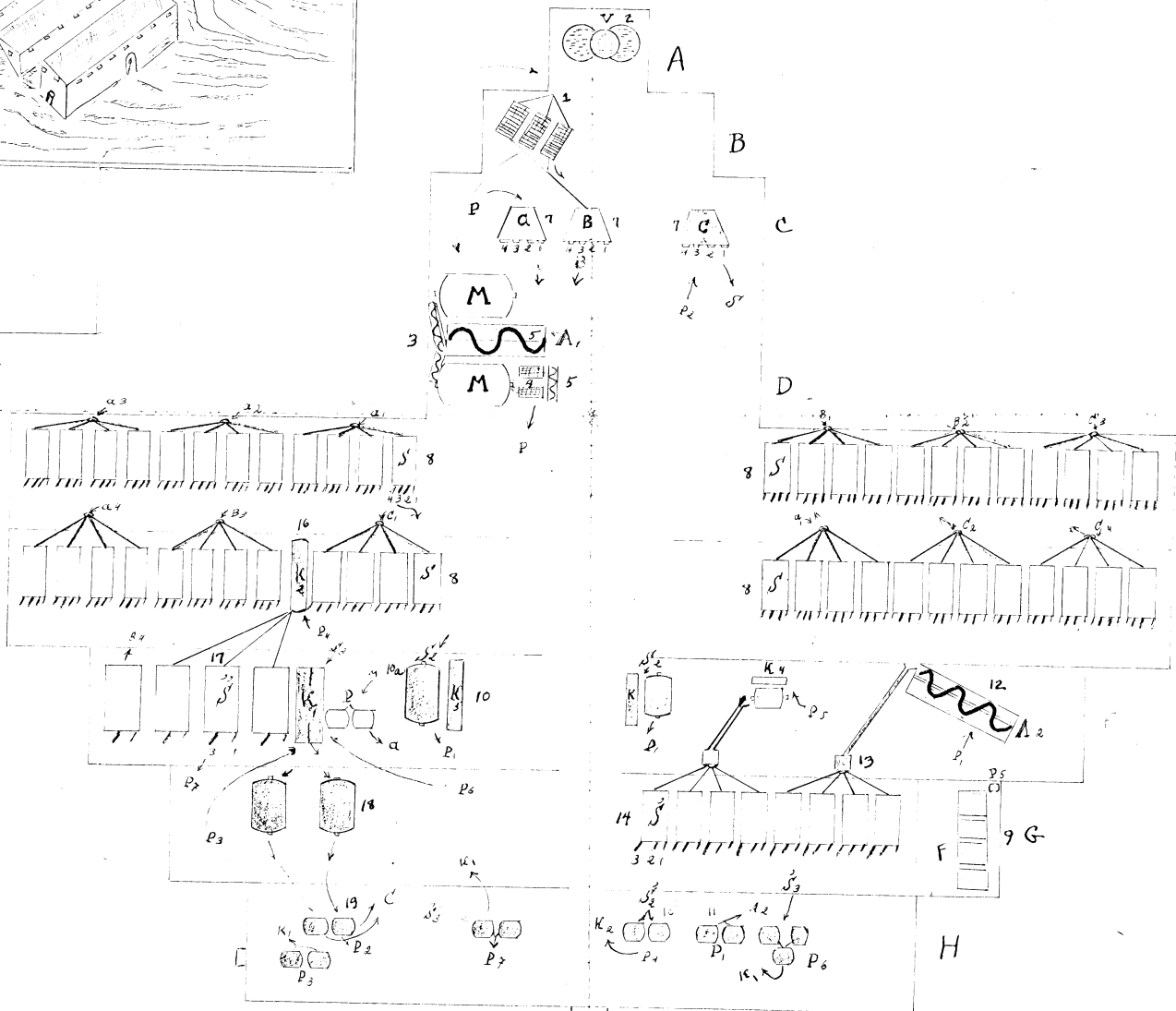
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FLOW CHART OF  
CASSITERITE CONCENTRATION PROCESS  
AT THIRD FACTORY, LAZO  
(MAIN BUILDING)

Scale: 1 inch = 5 meters

(see annotations)



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